THE DEMAND AND PRICE SITUATION

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: A SPECIAL ARTICLE, "THE INVENTORY PROBLEM" BY F.L. THOMSEN, APPEARS IN THIS ISSUE. :

INVENTORIES OF MANUFACTURERS AT END OF YEAR, ACCORDING TO VARIOUS ESTIMATES, 1935-39

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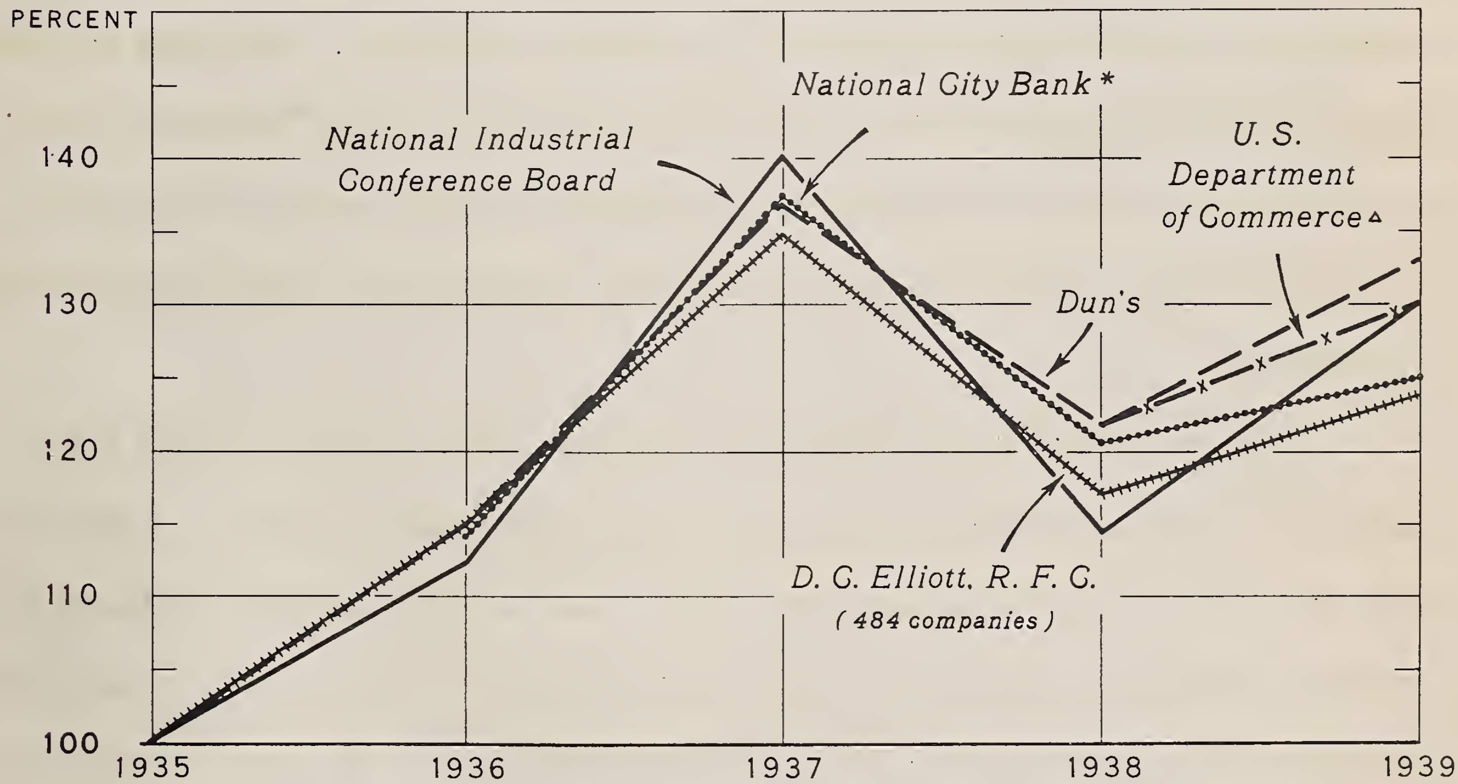


* IN ABSENCE OF 1935 REPORT, 1936 PLACED AT AVERAGE OF THREE OTHER ESTIMATES
△ DUN'S SERIES AS EXTENDED BY DEPARTMENT OF COMMERCE

U. S. DEPARTMENT OF AGRICULTURE NEG 38097 BUREAU OF AGRICULTURAL ECONOMICS

ONE OF THE IMPORTANT FACTORS INFLUENCING THE COURSE OF INDUSTRIAL ACTIVITY DURING THE REMAINDER OF 1940 IS THE INVENTORY SITUATION. AVAILABLE DATA ON INVENTORIES, UNFILLED ORDERS, AND NEW ORDERS ARE INCOMPLETE, AND UNSATISFACTORY IN OTHER RESPECTS. THE ABOVE CHART SHOWS DIFFERENT ESTIMATES OF MANUFACTURERS' YEAR-END INVENTORIES SINCE 1935. THE THREE SERIES WHICH PERMIT COMPARISON WITH 1929 GIVE VERY CONFLICTING INDICATIONS OF THE RELATIVE SIZE OF PRESENT INVENTORIES, BUT IN COMPARISONS WITH RECENT YEARS THE DIFFERENCES ARE LESS MARKED. IN GENERAL, THE VALUE OF INVENTORIES OF MANUFACTURERS APPEARS TO BE LOWER THAN IN 1937. HOWEVER, THE COMPOSITION AND LOCATION OF CURRENT INVENTORIES IS MUCH MORE SIGNIFICANT THAN THE TOTAL. CHANGES IN STEEL AND TEXTILE INVENTORIES AND UNFILLED ORDERS, IN RELATION TO THE CURRENT FLOW OF NEW ORDERS AND ESTIMATED CONSUMPTION, ARE ESPECIALLY IMPORTANT IN APPRAISING NEAR-TERM INDUSTRIAL PROSPECTS.

SUMMARY

Business conditions affecting domestic demand for farm products showed continued weakness during the past month, but this weakness was no more than expected and the demand outlook remains about the same as in recent months. Industrial activity has declined since January, but in recent weeks the decline has become more gradual and there are several preliminary indications which suggest the probability of an early end to the downward trend. As is usual, there was a delayed reflection in consumer purchasing power of the relapse in industrial activity. Although consumer income failed to advance in January it held close to the December level, and unless the decline in industrial activity is more prolonged than is now expected the buying power of consumers probably will not be substantially reduced.

Export statistics continue to indicate that the European war is having an adverse effect on exports of American farm products. Even the gain in cotton exports as compared with those a year earlier, induced by depleted European stocks and export subsidies, is being rapidly diminished according to recent weekly data. Industrial product exports continue to show substantial gains over corresponding periods a year earlier, and inquiries for aircraft and some other items suggest that increasing support to the domestic demand situation may be expected from foreign sales.

The general level of wholesale commodity prices has been unusually stable during the past month, following the declines from December to February, and signs of strength have appeared in a few commodities. Commodity prices in general are considered less vulnerable than in 1937-38 and no widespread declines in the general price level are anticipated.

Prices received by farmers in March were somewhat lower than in February, according to preliminary indications, and prices paid probably remained at about the same level as during the past 6 months.

Farm income declined less than seasonally in February, and remained higher than a year earlier. Income from sales in March will probably move about the usual seasonal increase, but Government payments will be smaller than in February.

A summary of the situation by commodities:

Cotton:	Domestic cotton prices remained relatively steady during the past month. They were about one-fourth higher than a year earlier, when domestic exports and mill activity were much lower than during the past month. The recent declines in exports and mill activity were expected in view of the high levels of the preceding weeks.
Wheat:	Domestic wheat prices in March recovered almost to the peak levels reached in December. Changes in prices in the next few months are expected to depend largely upon weather conditions in both domestic and foreign countries, the rate at which farmers liquidate and sell loan wheat, developments in the foreign political situation, and upon the volume of overseas sales of North American wheat.
Feed grains:	Feed grain prices advanced slightly during the past month and in mid-March were substantially higher than those of a year earlier. In mid-February corn prices in the surplus corn area were 5 to 15 cents below the loan rate, and the present rate of sealing indicates that the total quantity of corn sealed will be considerably larger than the 227 million bushels of 1938 corn sealed.
Oilseeds and fats and oils:	Little change occurred in prices of fats, oils, and oilseeds in February. But, with the exception of lard and oleo oil, prices generally were higher than a year earlier. Increased consumer income, higher rates on ocean shipments for imported materials, shortage of range feed in the Western States, and reduced supplies of cottonseed and peanuts were among the factors responsible for increased prices this year compared with last. Lower lard prices resulted chiefly from increased production and from weakness in the export demand for edible fats.
Hogs:	Slaughter supplies of hogs are expected to increase seasonally in the next month or two as the movement of fall pigs gets under way in large volume. The fall pig crop may be marketed somewhat earlier than usual this year because of the unfavorable

ratio of hog prices to corn prices in recent months. The weekly rate of hog slaughter decreased seasonally in February, but marketings during the month were much larger than a year earlier. Prices of hogs remained about steady during February and early March.

Cattle: Cattle numbers on farms on January 1, 1940 were about 3 percent larger than a year earlier. Total marketings of cattle and calves during 1940 probably will not be greatly different than in 1939, and cattle numbers are expected to increase further in 1940. Marketings of cattle decreased seasonally during February; slaughter supplies of short-fed cattle continued relatively large, however, and the total slaughter supply of cattle in February was larger than a year earlier. Prices of most grades of slaughter cattle advanced sharply in the last half of February.

Lambs: The early lamb crop in the principal producing States is expected to be about the same this year as last, but the number of early lambs marketed before July 1 probably will be considerably larger than a year earlier. Marketings of grass fat yearlings from Texas this spring also will be larger than last spring. Slaughter supplies of sheep and lambs decreased seasonally in February and were somewhat smaller than a year earlier. Lamb prices advanced sharply in February and early March.

Wool: Domestic supply conditions continue relatively favorable for the marketing of the 1940 domestic wool clip. The carry-over in the United States into the new season which begins April 1 is likely to be the smallest in recent years. Domestic mill consumption, on the other hand, may not be so large as in 1939 when consumption of apparel wool exceeded domestic production by about 190 million pounds. Sales of domestic wool continued small in February and prices at Boston were largely nominal. Prices in foreign markets advanced in February.

Butter: Butter prices declined sharply during February, after reaching the winter peak in late January. The sharp increase in milk production during February, together with the decline in business activity, was the principal factor accounting for the decline. Even though prices are decidedly below the winter peak, they are considerably higher than at the corresponding time a year earlier. While some further seasonal decline is in prospect, it seems probable that prices will continue higher than in 1939 during the coming spring and summer. Butter production in January was only slightly less than in January 1939. Apparent consumption of creamery butter in January was 5 percent larger than in January 1939. This increase occurred even though there was a marked reduction in the distribution of butter for relief.

Poultry: Egg production per hen increased more than seasonally during February. The volume of eggs being marketed has increased and wholesale prices have declined. Marketings of dressed poultry continue to be relatively heavy. Preliminary indications point to a somewhat smaller hatch of chicks during 1940.

Fruits and vegetables: Market prices of old potatoes have shown little change in recent weeks, but those of new stock have declined somewhat from the relatively high levels reached immediately following the late January freeze in the South. Prices of many truck crops at market centers declined in recent weeks from the relatively high levels reached a month earlier, although prices of those severely damaged by the late January freeze continue at high levels. Market prices of California navel oranges and lemons, Texas grapefruit, and western apples in early March were somewhat lower than a month earlier, while prices of Florida oranges and grapefruit, eastern apples, and western pears were slightly higher.

DOMESTIC DEMAND

Further deterioration has occurred during the past month in conditions affecting the domestic demand for farm products. Industrial production, which in January receded about 7 percent from the all-time peak reached in December, apparently was about 9 percent lower in February than in January, and some further slackening in operations probably is taking place in March. Any additional decline that may occur is expected to be moderate as compared with that of the first quarter. A reversal of the downward movement probably will occur this spring, but there are as yet no signs pointing to a rapid recovery thereafter.

The sharp contraction in industrial activity early in 1940 halted the upward trend in consumer income, according to preliminary January estimates, and a moderate decline in income is in prospect until industrial activity again picks up. However, unless the fall in industrial production reaches unexpected proportions the support to consumer income resulting from the preceding period of business improvement will prevent any marked diminution in domestic consumer demand for farm products.

Though weekly business statistics continue to disclose sagging tendencies in most lines of industrial activity, there are already discernible some undercurrents which are suggestive of an early end to the corrective phase through which industry is now passing. These are to be found largely in the price field. For instance, one large steel producer has announced that prices of processed steel products will be the same in the June quarter as at present. Steel scrap prices, which are usually sensitive to changes in underlying economic conditions, and which had fallen 25 percent between October and February, have not receded any further for about a month. Similarly copper prices, which are also sensitive to changes in business developments, have advanced moderately on resumption of heavy domestic and increased foreign buying. In fact, the daily average price index of 28 basic commodities reported regularly by the Bureau of Labor Statistics, after a decline from 125.5 (August 1939 = 100) on December 19 to 115.6 on February 14, has since recovered slightly.

There are several important reasons for assuming that the current decline in industrial activity will be less severe and not so prolonged as that of the 1937-38 period, and will not result in as serious contraction in national income and in the domestic demand for farm products. The present

relapse was preceded by much smaller increases in commodity and security prices than was that of 1937-38, and inventories in the hands of manufacturers and distributors apparently increased but moderately during the final half of 1939 as compared with the more prolonged period of inventory expansion which immediately preceded the 1937-38 depression. Though various estimates showing changes in manufacturers' inventories are not in close agreement (see cover page), each shows the value of inventories lower at the start of 1940 than they were at the end of 1937. But taking wholesale prices into consideration, it appears that the physical volume of manufacturers' inventories was almost as large at the start of 1940 as in late 1937.

Of greater significance than the relative size of inventories now and in 1937 is the fact that there does not now appear to be as great danger of inventory losses. Commodity prices are not in as vulnerable position as they were following the greater rise which preceded the 1937 business collapse, particularly since major wars in the past have been accompanied by increasing world commodity prices. Under these conditions it is doubtful that there will be any concerted tendency on the part of business to reduce inventories to any great extent, and thereby to aggravate the decline in industrial activity.

Trends in the major lines of industrial activity have continued about the same as they were a month ago. Automobiles remain as the most outstanding bright spot among the major industries, with production exceeding any previous comparable period except 1929. Dealer inventories appear ample, however, and output may not expand any more than seasonally in coming weeks. Textile activity has receded substantially from the rate of late 1939 and some further adjustment appears probable. Steel mills have reduced output from above 90 percent of capacity late in 1939 to below 65 percent now. New orders are considerably below this rate, but may pick up soon as stocks of steel in the hands of fabricators decline. Construction contracts continue at a somewhat lower level than a year ago but otherwise the highest for the season since 1931. Operations in several of the smaller industries--electrical equipment, machine tools, aircraft, etc.--continue very active and with no let-up in sight. Industrial exports continue large and various estimates place the probable increase for 1940 at around a billion dollars, or about 40 percent.

Speculative markets appear to be viewing the business outlook with more confidence than they were a month earlier. The immediate decline in industrial activity appears to be approaching an end. Consumer buying power and the domestic demand for farm products have been affected only slightly to date by the industrial readjustment, and barring unexpected developments will remain for some time well above corresponding months of 1939.

EXPORT DEMAND

Export statistics for January and developments in connection with war-time trade controls in European belligerent nations offer further evidence that the first year of war will have an adverse effect on export demand for most farm products.

The aggregate value of agricultural exports exclusive of cotton was smaller in January 1940 than in January 1939. Declines were especially large in tobacco (28 percent) and in crude foodstuffs (56 percent). Manufactured foodstuffs exports were, on the whole, about 40 percent above those of January 1939 and the value of cotton exported was about four times as great as a year earlier.

The large increase in cotton exports is primarily an outgrowth of developments not connected with the war, mainly depleted European stocks of American cotton and our subsidizing of cotton exports. However, the large volume of cotton export shipments which followed the outbreak of war was in part due to uncertainties concerning ultimate effects of the war on shipping facilities and on ocean freight and insurance rates. Heavy shipments of cotton during late 1939 and early 1940 against foreign orders (which were placed while export subsidy funds were available) have cut into export back-logs and have eased the situation created by depleted European stocks of American cotton. As a result, export shipments in recent weeks have shown much smaller gains over the corresponding weeks of last year.

The 74-percent increase in exports of processed nonagricultural products in January 1940 as compared with those a year earlier was a sustaining factor in the domestic demand situation, offsetting in part the adverse effect of war on farm product exports.

WHOLESALE COMMODITY PRICES

The general level of wholesale commodity prices has changed little during the past month. Slight declines in prices of leather, textiles, fuel, and miscellaneous products were offset by moderate gains in metals, building materials, and chemicals. Farm and food product prices are about the same as a month ago. The sensitive daily index of prices of 28 basic commodities computed by the Bureau of Labor Statistics declined about 8 percent from December 19 to February 14, but has since been remarkably stable and is slightly higher now than a month earlier.

The resistance of commodity prices to the depressing effects of further declines in industrial activity is indicative of the strength in underlying factors. The situation is quite different from that at a similar length of time after the start of the decline in industrial activity in September 1937. Commodity prices were then declining fairly rapidly and continued weak for several months. Inventory losses were accumulating and causing business men to hold purchases to a minimum. At present prices are but slightly below the September-December 1939 average, when inventories were being accumulated.

Failure of any general commodity price weakness to develop as yet, signs that declines in such sensitive individual commodities as steel scrap and copper may be about over, and the possibility that the war in Europe will lend support to industrial product prices create a different attitude on the part of business men toward inventories than that of late 1937. The prospect that a war-inspired price advance may eventuate is an effective offset to the fear that any substantial decline might develop, especially since there had been no advance in the general level of wholesale prices during more than a year of recovery in general business prior to the outbreak of war in Europe.

Price movements of farm commodities which usually are quick to reflect changes in consumer buying power--butter, eggs, fruit, vegetables, and meats--appear to have been geared closely to changes in seasonal and other supply factors during the past month, with little or no evidence that consumer buying power has as yet been sufficiently curtailed to be much of a depressing factor.

Though wholesale prices still continue under the influence of further curtailment in industrial activity, little general weakness is expected unless the decline in activity is more prolonged than now seems probable. The possibility of losses on inventories appears no greater than the possibility of being caught with inadequate stocks should the war in Europe spread or become more active and lead to a worldwide speculative advance in commodity prices.

FARM INCOME

Farm income declined less than seasonally from January to February, and in February was somewhat higher than a year earlier. The uptrend in income after seasonal adjustment resulted primarily from a 2-point rise in the prices received by farmers and in the large amount of corn placed under loan during February. The marked decline in sales of fresh vegetables in February was largely offset by the increase in prices. Government payments on the 1939 Soil Conservation Program continued large in February.

Farm income in March is likely to make about the usual seasonal increase from February and is expected to total somewhat higher than in March last year since both marketings and prices of farm products are above the level of a year ago. The amount of corn placed under loan in March may be smaller than in February but income from fruits and truck crops probably will increase more than usual. Government payments to farmers are likely to be lower in March than a year earlier, as the peak of Soil Conservation payments on the 1939 program was reached in January and February 1940 whereas the peak on the 1938 program occurred in March and April 1939.

PRICES RECEIVED AND PAID BY FARMERS

The index of prices received by farmers, on basis of price changes in central markets, is estimated to have declined some from mid-February to March. Advances of some importance were recorded in prices of cattle, wheat, and lambs and there were minor gains in a few other commodities. Prices of hogs were about the same in mid-March as a month earlier. Declines in such important items as butterfat, eggs, and truck crops were fairly substantial and there were also minor losses in several other products. The declines in prices of some groups of products were for the most part seasonal, and in some other instances the changes were adjustments from earlier abnormal advances which had accompanied unusual winter weather conditions.

The general level of farm prices in February, at 101 percent of the 1910-14 average, was two points higher than in the preceding month, nine points above February 1939, and the highest since January 1938. Products for which farm prices are still below the 1910-14 average include all the principal grains, cotton, hogs, eggs, apples, hay, and work-stock.

Prices paid by farmers in March for commodities used in production and for family living probably remained at 122 percent of the 1910-14 average, the same as from September 1939 to February 1940, inclusive.

The ratio of prices received to prices paid rose 2 points in February to 83 but probably declined as much in March.

COTTON

Domestic cotton prices during the past month were again relatively steady and continued mostly about one-fourth higher than a year earlier. The daily average price of middling 7/8 in the 10 markets ranged from 10-1/3 to 10-4/5 cents between February 6 and March 13. During the same period last year, when exports and domestic mill activity were materially lower than in recent weeks, the range was between 8-1/2 and 8-4/5 cents.

A further decline in domestic cotton mill activity in February and early March was perhaps no more than had been anticipated. The New York Times seasonally adjusted index of 137 percent of normal for the week ended March 2 compares with 142 for the week ended January 27. For the week ended March 4 last year the index was 120. In February, domestic mill consumption of 663,000 bales was 18 percent larger than in February 1939. The 7-month total from August through February of 4,700,000 bales was nearly 750,000 bales (19 percent) larger than in the corresponding period last season. Manufacturers' sales of unfinished goods continued below production during most of the past month. For the week ended March 8 such sales were equal to or slightly larger than output for the first week in more than 3 months, according to trade reports.

In Great Britain, France, and some of the neutral European countries cotton mill activity continued relatively high during recent weeks. An important part of the output was still for the filling of Government orders. In Central Europe cotton consumption is materially restricted due to the shortage of raw material.

In February domestic exports were more than 2-3/4 times as large as in February last year. In each week of the 3-week period ended March 7, domestic exports exceeded those of a year earlier by 75 percent or less, whereas for several weeks prior thereto exports were from three to four times as large as in the corresponding period last season. From August 1 to March 13 domestic exports totaled 5,027,000 bales compared with 2,649,000 bales during the corresponding period last season, an increase of 90 percent.

WHEAT

Domestic wheat prices in early March recovered almost to the peak levels reached in early January. The advance reflected reports of poor domestic crop condition, reports of damage to wheat in Soviet Russia and sections of Europe, and renewed concern over the foreign political situation. During the latter part of February, prices had declined partly as a reaction to the sharp advance which ended February 23 and partly as the result of the liquidation of wheat loans.

The price of No. 2 Hard Winter at Kansas City averaged 101 cents for the week ended March 9, compared with 104 cents for the week ended January 6, when prices reached the highest levels in about 2 years, and 103 cents for the week ended February 24, the recent high level. No. 1 Dark Northern Spring wheat at Minneapolis averaged 104 cents for the week ended March 9, compared with 110 cents for the week ended January 6, and 107 cents for the week ended February 24. On February 13, cash prices declined somewhat, reflecting Russian-Finnish negotiations and widespread snows and rains over domestic wheat areas.

Wheat prices in the United States continue high in comparison with prices in other countries, as the result of the Government programs and poor crop prospects. Prices of hard winter wheat at the Gulf and white wheat at Pacific ports are about 24 cents above export parity, and prices of domestic spring wheat at Buffalo are only about 14 cents lower than approximately the same quality of Canadian wheat, c. i. f., duty paid, at Buffalo. These price spreads compared with spreads the middle of February indicate that domestic prices are about the same to slightly lower compared with foreign wheat values of a month ago.

Extreme cold weather and alternate freezing and thawing are believed to have caused crop damage over much of Europe. Damage is reported to be especially heavy in Belgium and in parts of the Danube Basin. The area seeded to winter wheat in Rumania is reported to be 17 percent less, and in Yugoslavia 11 percent less, than seeded in these two countries last year. Reports also indicate that there has been considerable winter kill in Soviet Russia.

Changes in wheat prices in the next few months are expected to depend largely upon weather conditions in both domestic and foreign countries, the rate at which farmers liquidate and sell loan wheat, developments in the foreigh political situation, and upon the volume of overseas sales of North American wheat.

CORN AND OTHER FEED GRAINS

Prices of feed grains advanced slightly during the past month. The price of No. 3 Yellow corn at Chicago for the week ended March 9 was 58 cents per bushel, about 10 cents per bushel higher than a year earlier. The price of No. 3 White oats was 44 cents per bushel, about 13 cents per bushel higher than a year earlier. Improvement in the general business situation as compared with a year earlier, increased livestock numbers, and the large quantity of corn going under seal appear to be the important factors supporting feed grain prices above the early 1939 level.

Local market prices of corn in much of the surplus corn area ranged from 5 to 15 cents below the loan rate, and with the increased number of producers eligible, a large quantity of 1939 corn is being sealed. Up to March 8, 229 million bushels had been reported as sealed compared with 195 million bushels reported up to that date last year. It now appears that the total quantity of 1939 corn sealed will be considerably larger than the 227 million bushels of 1938 corn sealed and that the total quantity of unsealed corn on April 1 may be somewhat smaller than the 991 million bushels on that date a year ago.

1/ Neither sealed nor held by the Government.

Latest reports on the condition of the 1940 Argentine corn crop indicate that the production may exceed 375 million bushels. A crop of this size would be the largest since 1936, and would contrast with the two small crops of 174 and 191 million bushels for the past 2 years. Very little 1939 corn will remain for export from Argentina on April 1, the beginning of the 1940-41 marketing year.

Exports of corn from the United States for the period October - January totaled 17.4 million bushels, which was about 4 million bushels below the exports for the corresponding period of 1938-39.

OILSEEDS, FATS, AND OILS

Little change occurred in prices of fats, oils, and domestic oilseeds from January to February this year. But prices of nearly all items in February, with the exception of lard and oleo oil, were higher than a year earlier.

Increased consumer income, higher rates on ocean shipments for imported materials, and difficulties in securing supplies of certain foreign oils, notably tung, perilla, and fish-liver oils, were among the factors responsible for the increased prices of most fats and oils in February this year compared with last. Lower lard prices resulted chiefly from increased production and from weakness in the export demand for edible fats.

The average price of No. 2 Yellow soybeans at Chicago in February, at $1.06 per bushel, was 10 cents lower than in January but was nearly 30 percent higher than in February 1939. The farm price of cottonseed in mid-February was about $26.65 per ton, slightly higher than a month earlier and approximately 18 percent higher than a year earlier. No. 1 flaxseed at Minneapolis, at $2.14 per bushel, was about 12 percent higher, and the mid-month farm price of peanuts, at 3.6 cents per pound, was 6 percent higher than ~~a year~~ earlier.

Several factors were responsible for the higher prices of domestic oilseeds in February this year than last. Among these were the relatively high prices for oilseed cake and meal (brought about in part by the shortage of range feed in several areas of the Western States), the 5 - 20 percent higher prices of cottonseed, peanut, soybean, and linseed oils, and reduced supplies of cottonseed and peanuts.

HOGS

A seasonal increase in hog marketings is expected to begin within the next month (April), as the movement of fall pigs gets under way in large volume. The fall pig crop probably will be marketed somewhat earlier than usual this year because of the unfavorable ratio of hog prices to corn prices in recent months. The 1939 fall pig crop was about 16 percent larger than the 1938 crop, and slaughter supplies of hogs probably will continue materially larger than a year earlier throughout the remainder of the hog marketing year (through September 30). Consumer demand for hog products in this period probably will be stronger than a year earlier, but export demand may be weaker.

Inspected hog slaughter in February totaled 4,277,000 head, about 48 percent more than in February last year and the largest slaughter for the month

since 1932. The percentage increase in slaughter over a year earlier in February was much the largest for any month thus far in the current hog marketing year, which began October 1. The weekly rate of hog slaughter has decreased seasonally since about mid-January, however, and total inspected slaughter for February was about 20 percent less than in January. Inspected hog slaughter for the first 5 months of the current hog marketing year (October-February) totaled nearly 23 million head, or about 23.5 percent more than in the corresponding period of the 1938-39 season. The 1939 spring pig crop was about 20 percent larger than that of 1938.

Hog prices have remained remarkably steady throughout the past 3 months. A slight advance occurred in the last half of December, which was followed by a moderate downward trend during January, but during February and the first week of March the weekly average prices of hogs at leading markets did not change much. Ordinarily, hog prices advance somewhat from about mid-January through February as hog marketings decrease seasonally. The average price of butcher hogs at Chicago for the week ended March 9 was about \$5.20, compared with \$5.15 a month earlier and \$7.75 a year earlier.

The number of hogs on farms on January 1, 1940 totaled 58.3 million, about 9 million head or 18 percent more than the number on January 1, 1939. The increase in numbers in the past year was the second largest on record. Increases in numbers were reported in all areas, with the largest percentage increase in the Corn Belt.

Recent reports indicate that the proportion of sows in the total hog marketings is somewhat larger than a year earlier. This probably is a reflection of the low hog-corn price ratio of the past 2 months, and indicates that a larger than usual proportion of sows bred for spring farrow is being sold for slaughter. Some decrease in the 1940 spring pig crop seems probable.

CATTLE

The upward trend in cattle numbers, which began in 1938, probably will continue for a few more years, barring the recurrence of severe droughts. The total number of cattle and calves on farms and ranches on January 1, 1940 was about 68.8 million head, about 2 million head larger than a year earlier. Most of the increase in numbers during the past year occurred in States bordering the Mississippi River and eastward.

The increase in numbers during 1939 was accompanied by a considerable reduction in marketings of cows and heifers. Some further decrease in marketings of breeding stock is expected in 1940, but this may be offset by larger marketings of steers. The present level of numbers could be maintained, even if total slaughter of cattle and calves in 1940 should be 1.5 million head greater than in 1939. No such increase in the 1940 slaughter now seems probable, but further increases in numbers eventually will bring about considerably larger slaughter and marketings of cattle and calves.

After declining somewhat during the last half of January and in early February, prices of most grades of slaughter cattle advanced sharply in the last half of February. The advance was most pronounced for the better grades of slaughter steers and for feeder cattle. The spread between the prices of upper and lower grades of slaughter cattle widened further in February, but in early March it was about the same as a year earlier. The average price of good grade beef steers at Chicago for the week ended March 9 was about $9.95 compared with $9.40 a month earlier and $10.60 in the corresponding week of 1939. The average price of stocker and feeder steers at Kansas City for the week ended March 9 was about $8.95, nearly $1.20 higher than a month earlier but about 30 cents lower than a year earlier.

Marketings of cattle decreased seasonally in February. The total number of cattle slaughtered under Federal inspection during the month amounted to 715,000 head, about 112,000 head less than in January but 62,000 head more than in February last year. The increase over a year earlier apparently occurred chiefly in short-fed cattle, as the proportion of well-finished cattle marketed in the past 3 months has been much smaller than a year earlier. Inspected calf slaughter in February totaled 378,000 head, about 2 percent less than a year earlier.

LAMBS

The early spring lamb crop in the principal producing States this year will be about the same as that of last year. But the number of early lambs for slaughter before July 1 is expected to be considerably larger than last year, since many more of the early lambs in California and Texas are expected to reach slaughter weight and condition by July 1. Last year early lambs in these areas developed very poorly because of unfavorable feed conditions. In the eastern early lambing States weather and feed conditions since the first part of the year have been quite unfavorable for early lambs.

Slaughter of sheep and lambs during May and June this year probably will be considerably larger than the small slaughter during those months last year, but in April it may be smaller. In addition to larger marketings of spring lambs from Texas, shipments of grass fat yearling lambs and wethers from that State before July 1 also are expected to exceed those of last year.

Slaughter supplies of sheep and lambs decreased seasonally during February. Federally inspected slaughter for the month totaled 1,313,000 head, or about 285,000 head less than in January and 48,000 head less than in February last year. Inspected sheep and lamb slaughter in the preceding 3 months (November - January) was larger than a year earlier chiefly because of the larger marketings of fed lambs from the Corn Belt. The number of lambs put on feed in the Western States after January 1 this year was somewhat smaller than a year earlier, however, and slaughter supplies of fed lambs during the remainder of the fed-lamb marketing season, which ends about May 1, are expected to be smaller than a year earlier. The number of lambs remaining on feed in the northern Colorado and western Nebraska feeding areas around March 1 was about 10 percent smaller than in early March last year.

Prices of fed lambs advanced sharply during February and in the first week of March. The average price of good and choice slaughter lambs at Chicago for the week ended March 9 was $10.25, about $1.35 higher than a month earlier and the highest level reached in the current fed-lamb marketing season (December-April). During December and January prices of fed lambs did not differ greatly from those of a year earlier, but in early March lamb prices were about $1.30 higher than a year earlier and were about equal to the peak prices reached in both 1938 and 1939. Prices of slaughter ewes in early March also were higher than a month earlier and a year earlier.

WOOL

Domestic supply conditions continue relatively favorable for the marketing of the 1940 domestic wool clip. Even if imports in February and March are relatively large, the carry-over in the United States into the new season which begins April 1 is likely to be the smallest in recent years. Domestic mill consumption in 1940, on the other hand, may not be so large as in 1939, when consumption of apparel wool exceeded domestic production of shorn and pulled wool by about 190 million pounds.

Developments in foreign wool markets in the next few months are not likely to weaken the domestic situation. Prices have advanced sharply in South America and South Africa since early January. Supplies of good quality wools in those countries are reported to be clearing rapidly. Only small quantities of Australian wool are being released to neutral countries and prices of such wool are fixed by the British Government Wool Control.

Sales of domestic wool continued small in February. Prices at Boston were somewhat irregular but quotations on most grades were largely nominal. Good French combing length fine territory wools in original bags were quoted at 90-93 cents a pound, scoured basis, in the week ended March 2, compared with 95-97 cents a month earlier. Prices for graded domestic wools on the Boston market at the end of February were about 15 percent below the high point reached in September but were about 35 percent higher than before the sharp rise in September.

Mill consumption of apparel wool in the United States in January was slightly larger than in December and was 9 percent larger than in January 1939. Unfilled orders for woven cloth held by reporting mills on January 1 were about equal to those of a year earlier and were about 50 percent larger than orders held at the beginning of 1938.

United States imports for consumption of apparel wool totaled 24.3 million pounds in January compared with 15.9 million pounds in December and 6.1 million pounds in January 1939. January imports were the largest for any month since March 1937.

World wool production apparently reached a new peak in 1939. Production in 1939, exclusive of production in the Union of Soviet Socialist Republics and China, is provisionally estimated at 3.6 billion pounds. The 1939 estimate is about 3 percent greater than production in 1938 and is about 7 percent larger than the 5-year (1933-37) average.

BUTTER

Butter prices declined sharply during February, after reaching the winter peak in late January. The sharp increase in milk production during February, together with the decline in business activity, was the principal factor accounting for the decline. Even though prices are decidedly below the winter peak, they are considerably higher than at the corresponding time a year earlier. While some further seasonal decline is in prospect, it seems probable that prices will continue higher than in 1939 during the coming spring and summer.

Following the sharp decline in prices in February, the Dairy Products Marketing Association and Federal Surplus Commodities Corporation purchased about 1,400,000 pounds of butter from February 28 until March 9.

Butter production in January was only slightly less than in January 1939. This was in marked contrast with earlier months (September-December) when production had been decidedly less than in the corresponding month of the preceding year. Weekly reports indicate that production in February was larger than in February 1939. It seems quite probable that production will continue high during the remainder of the feeding period. Cow numbers are increasing and feeding has been relatively heavy.

Apparent consumption of creamery butter in January was 5 percent larger than in January 1939. This increase occurred even though there was a marked reduction in the distribution of butter for relief. Trade output through regular commercial channels was about 13 percent higher than a year earlier. The changes in prices and apparent consumption indicate that consumer expenditures for butter in January were 26 percent higher than in the same month of 1939. It is expected that consumer expenditure for butter during the coming spring and summer will average higher than the corresponding period of 1939.

Storage stocks of butter are declining and approaching the seasonal low.

POULTRY AND EGGS

Egg production per hen increased more than seasonally from the unusually low late January - early February production. The rate of lay on March 1 was 70 percent above the production figure for February 1. However, the net seasonal increase in rate of lay since January 1 has been less than usual and the figure for March 1 was slightly below a year earlier although somewhat above the 1929-38 average for that date.

The increasing production is resulting in sharp increases in egg marketings. Receipts at the four principal markets for the week ended March 2 were about the same as a year earlier but somewhat below the average receipts for that week. Prior to the week ended March 2 receipts were decidedly below both a year earlier and the 10-year average. Data for the 26 markets indicate that the major into-storage movement for eggs began during the week

ended March 2. The larger receipts of eggs have been reflected in substantial declines in wholesale egg prices. These lower wholesale prices, accompanied by steady feed prices, have resulted in a feed-egg ratio at Chicago that indicates an unfavorable situation for producers. For the week ended March 9 it required 7.36 dozen eggs to buy 100 pounds of standard poultry ration at Chicago. This compares with 6.38 dozen a year earlier, 6.16 dozen for the 10-year average for that date and 5.18 dozen for the week ended February 10 of this year.

Receipts of dressed poultry at the four principal markets indicate that poultry marketings are continuing above both those of a year earlier and the 10-year average. United States cold storage holdings of dressed poultry on March 1 were 24 percent above a year earlier and 37 percent above the 1929-38 average for that date. The larger supplies of frozen poultry this year are primarily a result of the larger stocks of turkeys compared with other years.

Reports of producers' intentions indicate that the 1940 turkey crop may be slightly larger than the record 1939 production. But it appears probable that hatchings of chicks will be somewhat lower this year than in 1939.

POTATOES

Market prices of old stock potatoes in line with normal changes in supplies for this time of year, have shown little change in recent weeks but those of new stock have declined somewhat from the high levels which were reached following the severe freeze. With the exception of prices of Colorado Red McClures and of new stock, market prices in early March were generally somewhat above those of a year earlier.

In the case of the Red McClure variety, supplies are large this season relative to total supplies of all varieties, whereas a year earlier they were small.

Supplies of new potatoes are relatively small and are expected to continue so until the latter part of April. The principal source of supply during the next few weeks will be Dade County, Florida, where the crop was damaged severely by the late January freeze. Shipments this season from north Florida and the lower Rio Grande Valley of Texas are expected to be 2 to 3 weeks later than usual. The crop in these areas is now making rapid growth and stands are better than earlier expected. In the other areas of the South potato planting has been delayed by unfavorable weather but is now making rapid progress.

TRUCK CROPS

Market prices of many truck crops declined in recent weeks from the relatively high levels reached a month earlier, although prices of those severely damaged by the late January freeze continue at high levels. Supplies of lima beans, snap beans, beets, cucumbers, eggplant, okra, peppers, squash and tomatoes are very scarce and are expected to continue so for at least another month.

Unfavorable weather the last half of February retarded the growth of truck crops and delayed plantings for spring and early summer harvest in all of the Southern States and California. These delays are likely to result in a crowding of marketings in May and June, in that the delayed early crops are likely to overlap the marketing season of some of the second early States.

Production of asparagus in the early States is indicated to total 7,206,000 crates compared with 6,647,000 crates last season. This production includes both the crop for market and for processing in California.

Recent reports on the south Florida tomato crop indicate that the acreage for harvest now totals only 6,500 acres this season as compared with 18,000 acres last season. Also that the acreage in the other early States is only 40,000 acres compared with 42,100 acres in 1939.

FRUITS

Fruit prices at market centers showed a mixed trend in late February and early March. Prices of California navel oranges and lemons, Texas grapefruit, and western apples in early March were somewhat lower than a month earlier while prices of Florida oranges and grapefruit, eastern apples, and western pears were slightly higher.

Much of the rise in prices of citrus fruits occurring immediately after the late January freeze in Florida and Texas has been lost, but prices of southern citrus remain slightly higher than a year earlier. California navel oranges at $2.65 per box in New York City during the week ended March 9 were 47 cents per box lower than a month earlier, lemons were down 78 cents per box from $4.52, but Florida oranges and grapefruit at $2.50 and $1.96 per box, respectively, were about 5 cents higher. Western boxed apples averaging $1.85 in early March were slightly lower than a month earlier, whereas most varieties of eastern apples averaged about 10 cents per bushel higher. Western pears have advanced seasonally in recent weeks and in early March averaged 35 to 50 cents per box higher than in early February.

Prospective production of winter and spring oranges declined further in Florida but increased slightly in California. The Valencia orange crop in Florida is now estimated at 7 million boxes compared with 9 million boxes a month earlier and 13 million a year earlier. The California navel orange crop is increased 1.3 million boxes to 17.4 million and compares with 17.9 million boxes last season. The total winter and spring orange crop, which is the principal source of market supply until about the end of May, is indicated at 46.4 million boxes as compared with the 55.6 million-box production from the bloom of 1938. The prospective production of grapefruit and lemons is unchanged from a month ago when grapefruit production was indicated to be 13.7 million boxes less than that of last season.

Cold storage holdings of apples totaled 14.4 million bushels on March 1 or about 1 million less than a year earlier. They indicate that the out of storage movement in February was slightly larger than in February 1939 but slightly smaller than the average for February. The Federal Surplus Commodities Corporation is continuing to purchase apples and has maintained the out-of-storage movement despite the almost complete loss of the export outlet.

THE INVENTORY PROBLEM

Differences of opinion with respect to the outlook for industrial activity during the remainder of 1940 hinge largely upon interpretation of the inventory situation. One group of business analysts believes that inventories now are very heavy, as a result of the rapid recovery of industrial production since the middle of 1938, and particularly the sharp rise which occurred in the last 4 months of 1939 following the outbreak of the war in Europe. Other forecasters believe that the inventory situation is not as dark as is painted by some of the current figures, and that it will not prevent some degree of recovery from the present recession during 1940. These differences of opinion regarding inventories have arisen many times before, because of the lack of conclusive data. There is hardly a more important or controversial subject in the realm of business forecasting.

The inventory problem really involves two questions: (1) How much? and (2) How much is too much? The first of these questions is a matter of fact, of measuring the amount of inventories. The second has to do with the significance of these inventories in the business situation.

There are no accurate, fully representative data to show the size of current inventories. One method of obtaining an indication of these inventories is to compare the consumption and production of industrial products. For a measure of consumption it is necessary to rely upon available sales data, which are incomplete. We do have data on sales of department stores, chain stores, and some other classes of retail establishments, and some data on sales of wholesalers and scattered data on sales of manufactures such as textile mills. For industrial production as a whole, it is necessary to rely upon an index such as that of the Board of Governors of the Federal Reserve System, although for individual items both sales and production data are available. Naturally, a comparison of such over-all sales and production data is likely to be very unsatisfactory, since the two series are not comparable in many respects. The sales data generally comprise finished industrial goods entering consumption channels, whereas the production data largely represent raw materials and semi-finished products. Even when adjustments are made in the production data to compensate partly for this difference, the resulting comparisons may or may not be significant, and may be quite misleading.

Other data on inventories may be obtained from income tax returns and corporation statements, or from sample surveys. A number of such indications are shown in the chart on the cover page (prepared by Mr. P. H. Bollinger). Although the general direction of change in inventories may be correctly indicated by such data, the latter differ considerably in the degree of change shown, and business forecasters have learned from sad experience to avoid placing too much reliance upon these over-all measures of inventories.

Nevertheless, it is possible to obtain some rough idea of the change in the general inventory situation merely by following the course of industrial production. Anyone familiar with business conditions knows that consumption changes are not as frequent, rapid, or great in degree as the changes in industrial activity which have been witnessed in recent years. Thus, when

industrial production rose from 92 in May 1939 to 128 in December it was quite obvious that consumption had not kept pace, and that a downswing of some sort was in prospect. Advance indications of other turning points of industrial activity in recent years have been similarly evident, and have constituted a principal basis for successful forecasts of changes in the directional movement of industrial production.

The significance of any absolute level of inventories depends upon other attendant circumstances. A volume of inventories which appears to be high at one level of commodity prices or general business activity may be considered low under other general economic conditions. One way of taking this into account is to relate the indicated volume of inventories to the current and prospective volume of sales, as shown in the accompanying chart, Fig. 1 (prepared by Mr. P. H. Bollinger). Although this comparison would on some occasions have given an advance indication of a turning point (e.g., 1929 and 1937), in many other instances it would have been deceiving.

There are good reasons for believing, however, that even this approach to the interpretation of inventory data may be inadequate and upon occasions grossly misleading. The difficulty arises from using any over-all measure of inventories and sales. Suppose, for example, that we had an increase of industrial activity from 100 to 120, due entirely to an increase in the output of steel in response to the prospect of higher steel prices at a later date. Total inventories of industrial products, in this event, might show only a slight increase, or the rise in steel inventories might even be offset by declines in other products. But since steel has such a heavy weight in computation of the index of industrial production, we could confidently expect a decline of the index sometime following this spree of steel buying, while the industrial users of steel were absorbing the materials purchased before the price rise. The only way such an adjustment could be avoided would be for all other business to be pulled up by the spurt in steel activity to a point where the increased use of finished products generally would make it possible to absorb the extra steel production. As a matter of fact, steel mill activity can hardly be expected to have such a large effect upon other business.

Examination of the changes in the component elements of the Federal Reserve index of industrial production during past years indicates that the changes in industrial production relative to the movement of the finished goods into final consumption frequently have been of this nature. In considering the inventory situation, therefore, it is much more important to know where the inventories are, and the particular products affected, than to know the total volume of inventories. We might have a general increase in the inventories carried by retail and wholesale establishments which could be carried for a long period of time without any noticeable effect upon industrial activity, provided general economic conditions were favorable to the carrying of large inventories. A hardware store with large inventories must still order some individual items which it has stocked less heavily or for which sales are greater than anticipated. On the other hand, if there has been a large increase in the inventories of steel in the hands of automobile companies and other manufacturers it is quite likely that they will want to work off a considerable part of these products before reordering, and that this

process will take place within a relatively short time. If the increase in inventories has been on the part of the steel mills themselves, in anticipation of larger orders which do not actually develop, the resulting adjustment in production may be even quicker and more drastic. Thus, the question of How much is too much? depends upon the nature and location of the inventories much more than upon their absolute size or even their size in relation to current sales of all products.

Some of the reasons for this conclusion may be observed in an analysis of changes in the component elements of the Federal Reserve index of industrial production during the past several years. A chart showing the contribution of selected industries to changes in this index has been published from time to time in The Demand and Price Situation, and data for the years 1929 to 1939 are given on page 10 of the 1940 Outlook Chart Book for Demand, Credit and Prices published by this Bureau. This break-down shows how much of each monthly change in the Federal Reserve index is due to changes in the output of selected commodities or groups. It takes into account the weight assigned to the commodity in computing the index, as well as changes in output of the commodity. In the accompanying chart (Fig. 2), all commodities other than steel and textiles have been combined, and data for years prior to 1936 omitted, making the chart easier to read than the similar one previously used in this publication.

Examination of these data indicates, for example, that of the total drop of the index from the high point in May 1937 to the low point in May 1938, 41 percent was attributable to steel and 19 percent to textiles, leaving only 40 percent ascribed to all other commodities. Likewise, of the total decline from December 1938 to April 1939, 36 percent was due to steel and 29 percent to textiles.

These two commodities not only are heavily weighted in computing the index, but also are subject to greater fluctuation than many others. Apparently the short-term fluctuations in output of these commodities have been of increasing intensity in recent years, accounting in considerable part for the increasing fluctuations of industrial activity as measured by this index. These tendencies are the result of a number of circumstances which should be obvious to any one who follows conditions in these industries.

It is evident, therefore, that changes in steel inventories, mill backlogs, and new orders, and in consumption of steel and its products by fabricators and final consumers, is one of the most important features of the general inventory situation. The same is true of textiles. In forecasting short-time movements of the index of industrial production, these considerations outweigh many others which at first blush might seem to be more fundamental and important. In the past few years, at least, accurate data covering the general inventory situation for these items would have made possible surprisingly accurate forecasts of the turning points of industrial production. Even with little more than figures on steel and textile production available, and sometimes quite unreliable newspaper reports regarding back-logs and inventories, it has been possible by following the situation closely to make fairly accurate forecasts of the index of industrial activity.

The difficulties involved in making forecasts based partly upon such inadequate data relating to inventories, sales, and orders is well illustrated by the present situation. As in other initial downswings of recent years, the decline of industrial production from December 1939 to March 1940 evidently is largely a reflection of changes in steel and textile output, with much the sharpest drop occurring in the former (see Fig. 2). The back-log of orders accumulated during the fall months, which since has been gradually reduced, has prevented an even sharper drop in output. No data are available to indicate how much of the record steel production during this period was actually used up by fabricators: how much, for example, went into automobile production and how much into the steel inventories of automobile manufacturers. The latter, and other fabricators, might have sufficient steel to last them for several months longer (in 1937-38 automobile companies ordered very little steel during the entire year, drawing largely upon stocks accumulated or ordered before the industrial decline set in). On the other hand, they may be nearing the point where new orders to meet spring and summer requirements will be imperative. The probabilities are that sufficient new orders soon will be received by steel mills to prevent any substantial further decline in steel production, which otherwise would occur as present mill back-logs are exhausted. If this proves to be correct, some pickup in seasonally adjusted steel output may occur after a "bottom" is reached this spring.

On the other hand, textile production may continue to decline, more or less offsetting any possible early improvement in the steel situation. Here, again, the prospects depend in considerable measure upon an uncertain inventory position. Textile production has been at a relatively high level for more than a year, and in some lines has been of record proportions since the outbreak of the war in Europe. Despite increased exports of textiles, and substitution of cotton for some other materials, the natural assumption by many business observers has been that textile inventories must have been greatly increased somewhere along the line from mills to consumers, but the available data on inventories do not indicate such a condition. Mill back-logs have been substantially reduced, however, and textile production has been declining in 1940. Although textile mills are notoriously optimistic, and may produce for inventory for some time after their back-logs have been exhausted, a further decline in production seems highly probable. The data relating to various phases of the inventory situation in this field of activity, however, are not sufficiently complete to warrant drawing more than tentative conclusions.

Although other factors enter into the immediate situation, the position of steel and textiles is of paramount interest. Upon them will largely depend the movement of the index of industrial production during the next few months. --F. L. Thomsen

Economic trends affecting agriculture
Index numbers: Indicated base period = 100

Year and month	Industrial production 1/	Construction contracts awarded 1/	Factory employment 2/	Factory payrolls 2/	Income of industrial workers 3/	Volume of agricultural exports 4/	Wholesale prices of all commodities 5/	Retail food prices 6/	Prices received by farmers 7/	Prices paid by farmers	Ratio of prices received to prices paid	Cash income from farm marketings 8/
Base period	1923-25	1923-25	1923-25	1923-25	1924-29	1910-14	1910-14	1913	1910-14	1910-14	1910-14	1924-29
1929	119	117	106	110	107	107	139	166	146	153	95	104
1930	96	92	92	89	88	82	126	158	126	145	87	83
1931	81	63	78	68	67	88	107	150	87	124	70	58
1932	64	28	66	47	46	94	95	108	65	107	61	44
1933	76	25	73	50	48	85	96	105	70	109	64	49
1934	79	32	86	64	61	66	109	117	90	123	73	58
1935	90	37	91	74	69	61	117	128	108	125	86	65
1936	105	55	99	86	80	55	118	130	114	124	92	76
1937	110	59	109	102	94	65	126	135	121	130	93	81
1938	86	64	90	78	73	75	115	125	95	122	78	71
1939	105	72	97	91	83	65	113	122	93	121	77	72
1939-												
Jan.	101	86	95	87	80	61	112	123	94	120	78	76
Feb.	99	73	94	86	79	66	112	122	92	120	77	73
Mar.	98	69	94	85	79	69	112	121	91	120	76	72
Apr.	92	67	94	84	75	55	111	121	89	120	74	68
May	92	63	93	84	75	62	111	121	90	120	75	70
June	98	63	94	86	80	46	110	121	89	120	74	64
July	101	67	95	87	80	51	110	121	89	120	74	63
Aug.	103	73	96	90	83	63	109	119	88	119	74	66
Sept.	111	73	98	93	86	81	115	125	98	122	80	74
Oct.	121	76	101	100	91	82	116	124	97	122	80	76
Nov.	124	83	103	103	93	56	116	123	97	122	80	76
Dec.	128	86	105	104	93	75	116	122	96	122	79	79
1940-												
Jan. 9/	119	75	104	102	93	105	116	122	99	122	81	78
Feb. 9/	109						115	124	101	122	83	

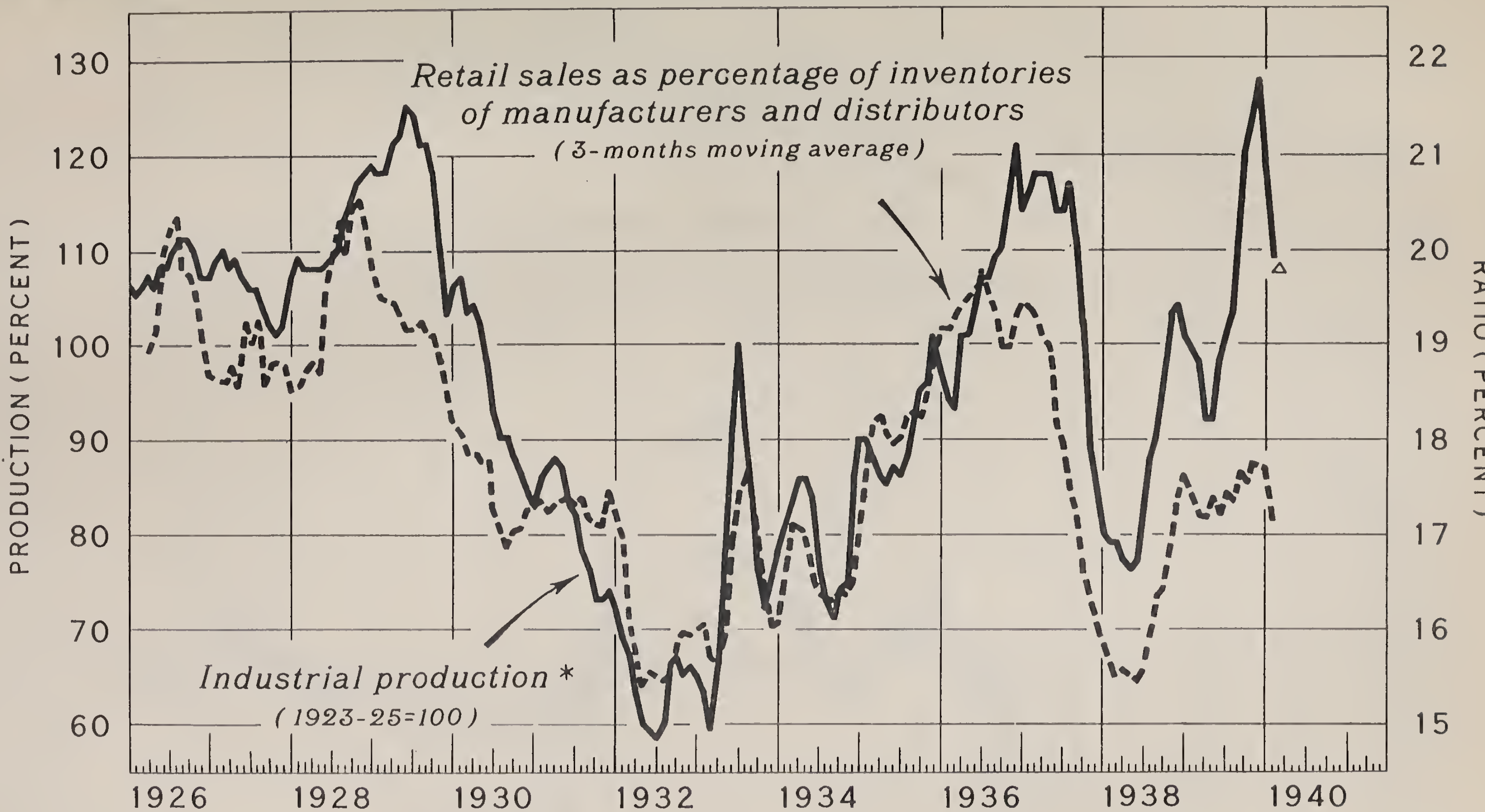
Contin -

1/ Federal Reserve Board, adjusted for seasonal variation.
2/ Bureau of Labor Statistics, adjusted for seasonal variation (employment adjusted by Federal Reserve and payrolls by Bureau of Agricultural Economics).
3/ Adjusted for seasonal variation. Includes factory, railroad, and mining employees.
4/ Foreign Agricultural Relations, July 1909-June 1914 = 100, adjusted for seasonal variation.
5/ Bureau of Labor Statistics, 1926 = 100, converted to 1910-14 = 100.
6/ Bureau of Labor Statistics, 1923-25 = 100, converted to 1913 = 100.
7/ August 1909 - July 1914 = 100.
8/ Adjusted for seasonal variation. Revised March 1940.
9/ Preliminary.

Note: In comparing trends between industrial production and industrial workers' income, as indicated by the above index numbers, notice should be taken of the different base periods used, and of the fact that income of railway workers, as well as incomes of mining and factory workers, is included in the index of industrial workers' income, whereas the industrial production index is based on mining and manufacturing only. Similar precautions are necessary in comparing trends between industrial production and factory employment and payrolls. The base periods are the same, but the production index includes minerals as well as factory products. Another consideration of importance is that the production index is based on volume, whereas the income indexes are affected by changes in wage rates as well as by time worked. In comparing monthly indexes it is important to keep in mind the fact that there is usually a time lag between changes in volume of production and similar changes in employment and in workers' income.

INDUSTRIAL PRODUCTION, AND RETAIL SALES AS PERCENTAGE OF INVENTORIES, UNITED STATES, 1926-40

(ADJUSTED FOR SEASONAL VARIATION)



* DATA FROM BOARD OF GOVERNORS OF FEDERAL RESERVE SYSTEM

△ ESTIMATE

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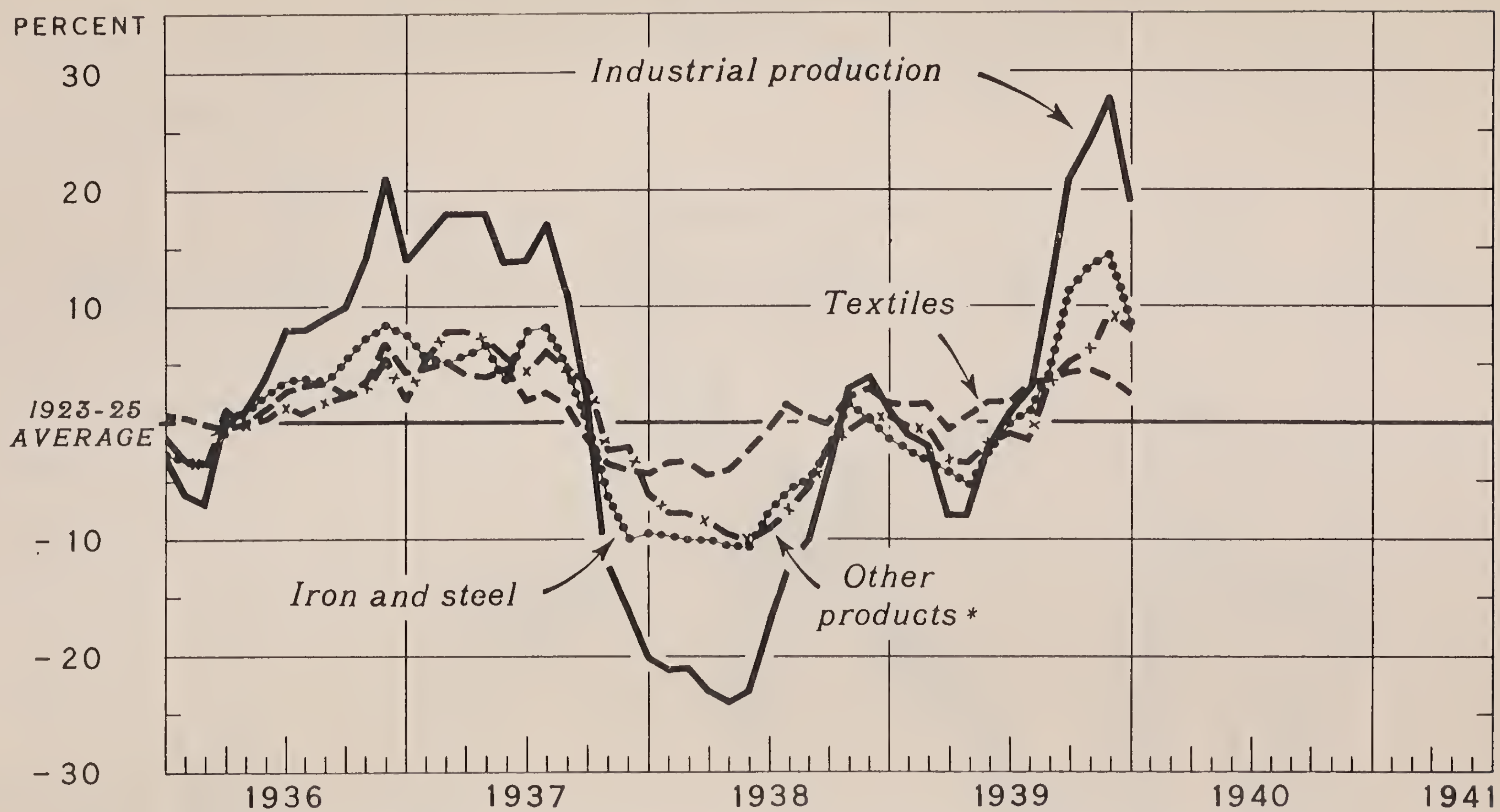
FIGURE 1.- THE SALES-INVENTORY RATIOS USED IN PREPARING THIS CHART ARE BASED UPON RETAIL TRADE ESTIMATES OF THE DEPARTMENT OF COMMERCE AND THE INTERNATIONAL STATISTICAL BUREAU, AND INVENTORY DATA FROM DUN'S, FROM CORPORATE BALANCE SHEETS, AND FROM OTHER SOURCES. THESE DATA ARE INCOMPLETE AND, IN SOME CASES, OF QUESTIONABLE ACCURACY, BUT ARE THE BEST AVAILABLE FOR THE PURPOSE. THE RATIOS HAVE LITTLE OR NO ABSOLUTE SIGNIFICANCE, BUT MAY FURNISH AN INDICATION OF CHANGES FROM TIME TO TIME.

CONTRIBUTION OF SELECTED INDUSTRIES TO CHANGES IN FEDERAL RESERVE INDEX NUMBERS OF INDUSTRIAL PRODUCTION, UNITED STATES, 1936-40



* MINERALS, AUTOMOBILES, FOOD PRODUCTS, PAPER AND PRINTING, LOCOMOTIVES, LEATHER PRODUCTS, CEMENT AND GLASS, NONFERROUS METALS, MANUFACTURED FUELS, RUBBER TIRES AND TUBES, AND TOBACCO PRODUCTS

FOR EXPLANATION SEE THE 1940 DEMAND, CREDIT, AND PRICES OUTLOOK CHART BOOK, PAGE 10

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FIGURE 2.- THE HEAVY SOLID LINE SHOWS PERCENTAGE DEVIATIONS OF THE FEDERAL RESERVE INDEX NUMBERS OF INDUSTRIAL PRODUCTION FROM THE 1923-25 AVERAGE. EACH OF THE OTHER LINES SHOWS THE EXTENT TO WHICH THE INDEX NUMBER OF INDUSTRIAL PRODUCTION WOULD HAVE DEVIATED FROM THE 1923-25 AVERAGE IF THE LEVEL OF OUTPUT OF ALL OTHER PRODUCTS INCLUDED IN THE INDEX NUMBER HAD REMAINED UNCHANGED, I.E., THEY SHOW THE RESPECTIVE CONTRIBUTIONS OF THE SEVERAL INDUSTRIES TO BE DEVIATIONS OF THE INDEX NUMBER REPRESENTING THE COMBINED MOVEMENT OF ALL THE PRODUCTS. THE ALGEBRAIC SUM OF THE DEVIATIONS OF THE INDIVIDUAL PRODUCTS IS EQUAL TO THE DEVIATION OF THE INDEX NUMBER OF INDUSTRIAL PRODUCTION. BECAUSE OF THE METHOD OF COMPUTING INDEX NUMBERS OF INDUSTRIAL PRODUCTION, THE LINES SHOWN IN THIS CHART ARE ONLY APPROXIMATIONS OF THE RESPECTIVE CONTRIBUTIONS OF THE SEVERAL INDUSTRIES.